THE RALEIGH AMATEUR RADIO SOCIETY'S 9TH ANNUAL

AN ARRL APPROVED

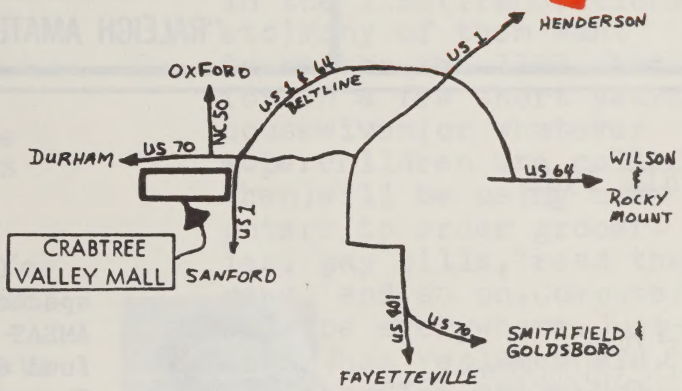
HAMFEST

$3.50 GENERAL ADMISSION

ACTIVITIES BEGIN AT 9:00 A.M.

APRIL 12 1981

CRABTREE VALLEY MALL
US 70 WEST
RALEIGH, N.C.



PRIZES!!! PRIZES!!! PRIZES!!!

1ST PRIZE – Choice of Kenwood TS130S HF transceiver and PS-30 12 volt power supply or I com 251-A multi-mode 2 meter transceiver with mirage B-108 80 watt amplifier. G.I.S.M.O. of Rock Hill, S.C. aided RARS in the purchase of this prize.

2ND PRIZE – Kilowatt three element Tri-Band Beam. This prize presented by RARS.

3RD PRIZE – Heavy duty CDE antenna rotor donated by Cornell-Dubilier Electronics of Fuquay-Varina, North Carolina.

MANY OTHER PRIZES WILL BE DRAWN ALL DAY SUNDAY!!!

E-X-P-A-N-D-E-D- FLEA MARKET (Covered)

WALK TO NEARBY MOTELS AND RESTAURANTS

Howard Johnson–Crabtree Valley	1-919-782-8718
Sheraton Crabtree Motor Inn	1-919-787-7111
Ramada Inn–Crabtree	1-919-782-7525

HOSPITALITY ROOM AT CRABTREE MALL

WEST COMMUNITY ROOM ON SATURDAY EVENING,
7 till 11 p.m. Social and Door Prizes!

TALK-IN SATURDAY AND SUNDAY
WR4ACF (146.04/146.64)
WR4AOE (146.28/146.88)

SPECIAL INTEREST MEETINGS: Q.C.W.A., M.A.R.S., & OTHERS.

FOR ADDITIONAL INFORMATION, DETAILS, OR RESERVATIONS WRITE:
RARS Hamfest, P. O. Box 17124, Raleigh, N. C. 27619

EDITOR:
C. T. WEST, WD4HSI
1611 Craig Street
Raleigh, N. C.

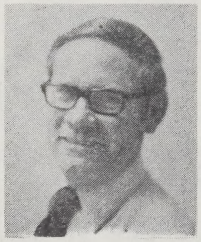
CLUB REPEATER:
WR4ACF (146.04/64)

CLUB CALL:
W4DW

"RALEIGH AMATEUR RADIO SOCIETY NEWS"

APRIL 1981 ISSUE 133

LEADING EDGE



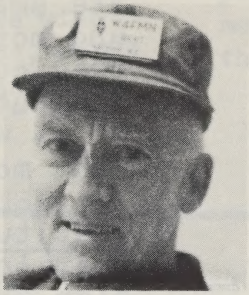
SHERMAN STARNES
W4TZU

Amateur radio's second satellite rode into space on June 2,1962 from Vandenburg AFB. OSCAR 2, identical to OSCAR 1 except for slightly higher output power, operated for more than two weeks. Reception reports from around the world were up 16 percent over those for OSCAR 1. Hundreds of amateurs got in on the ground floor. These satellites were powered from non-rechargeable batteries and it is said that they cost sixty five dollars each. The only way to go from there was up.

Construction of the Phase 3B spacecraft is progressing well but AMSAT has mounted a multi-headed fund drive to sustain this effort. The companion Firewheel experiment has been terminated for lack of funds, so 3B will accompany a European communications satellite as was originally planned.

The kick motor for Phase 3B, once a cause for concern, is now a multiple source item. The Air Force uses a GE solid fuel kick motor and fires one on the ground every four months for test purposes. Someone has decided that a test in space would satisfy their requirements so the offer has been made to AMSAT to use one of them for Phase 3B. In addition, a West German industrial firm has offered the use of a motor left over from the Symphonie satellite program. This motor is hypergolic, that is, its fuel and oxidizer ignite in the presence of each other. By controlling the flow of

BERT'S BEAT
WITH
BERT BAILEY, W4FMN



COMPUTERS

Everybody is going ape over these beauties,as well they might. Many predict the "end"of electronics.Make way for the computer juggernaut. They are truly vfb devices, machines, whatever one chooses to call them. Some engineers want to change all names from EE to CmptrE.There may be some merit to the hue and the clamor. But old as I am I clearly remember the demise of the "bottles" and the heralded "solid state".Lee Johnson used to brag about knowing zilch re VTs until I asked him to step aside and showed him his own rack of items clearly identifiable as vacuum tubes(TWTs). Perhaps these computers, --micro, mini, the lot-- are an apt comparison? Personally, I feel that communications is the name of the game.So we convert audio to digital. It"ain't nothing"until we transmit it.And that's commo, Big Commo:We all got to work together.So why engage in diatribes re computers vs electronics?The Computer Society is the biggest society in the IEEE(Transactions etc)Many of them want to rename the IEEE.What for?In a few short years housewives(or whatever woperchildren are called then)will be using computers to order groceries, pay bills, read the news, and so on.Computers will be everywhere.Just as SS has replaced VTs. But thru the smoke and haze, NCSU will still be grinding out EEs and COMMUNICATIONS will be the name of the game yet. Then, the cry will be: "Down with commo. We are Satellite Bums: Nothing else matters.Rename the IEEE the ISB." Hear music in the background?

The Late GaAs Caper

Now that we about understand the intricacies of the powerful little jewel known as the GaAs chip, along comes Bell engineers telling us they got something better.

It will"blow GaAs out of the water?????What are they making submicron MOSFETs with? Equal to the GaAs MESFETs reputed to be the fastest devices known at room temp? It's a new Xray lithgraphy system developed at Bell Labs. The new MOSFETs have switching speeds in excess of 50 psec, at microwave speed.They are smaller, cheaper, and more reliable than previous Xray systems. Thruput is on the order of 75 wafers per hour. Want more poop? Join the IEEE and read The Institute. Most bits therein amplify the sign appearing over the entrance to the EE labs at MIT,i.e. IF IT WORKS, IT'S OBSOLETE.

SYNCH TRUB?

What happened the last time you tried to check phase relationships between two curves on a DT scope and found there were none. Yet you knew they were not in phase? Perhaps you were using the ALTERNATE mode. In the CHOPPED mode, a single trigger starts each sweep. Whatever phase difference that exists between the two waveforms will be displayed exactly. The two inputs are being shown, in time, as they occur. But, remember, in the ALT mode the INTERNAL mode of triggering is used. True phase displacement may not be shown. When the signal in Channel A crosses 0 volts with positive slope, for example, a trigger signal starts the sweep. The alternate sweep will be when the Channel B signal crosses 0 volts with positive slope, whenever that occurs. That is, no phase difference will be displayed, even if there is one. So what to do? Use EXTERNAL synch. Now the synch will provide a display of the two signals in their proper phase relationship. Yours for good scoping.

Those of us who attended spent a most enjoyable evening. We wish to thank our president, Doc, W4YZX, for making these Awards Banquets possible, and thanks also to the members who support his efforts by their interest and participation.

RARS is saddened by the loss of a member and a friend, Paul Browne, WB4PZW, who became a silent key on March 4. Paul will be deeply missed by RARS as an organization and by each of us as individuals. We wish to express to his family our love and sympathy.

The Raleigh Times, Raleigh, N.C., Wed., Mar. 4, 1981

P. R. BROWNE

Funeral for Paul Richard Browne, 59, of 4419 Gates St., product reliability assurance manager for Schrader-Bellows Co. who died today, will be at 8 p.m. Thursday at Brown-Wynne Funeral Home, Millbrook Road. Burial will be in Sleepy Hollow Cemetery, Tarrytown, N.Y.

Surviving are his wife, Mrs. Audrey Nicklas Browne; two sons, Charles H. of Toms River, N.J., and Allan L. Browne of Baltimore, Md.; a stepsister, Mrs. Merrill Brown of Kuwait; one granddaughter.

(Editor's note: Minutes of RARS meetings are officially published in RARS News. The club's revised bylaws were mailed to members in place of the March 1981 issue. Minutes of the club's February 1981 meeting are published in this issue.)

The regular monthly meeting of the Raleigh Amateur Radio Society was held on February 4 in the West Community Room at Crabtree Valley Mall. President "Doc" Cobb, W4YZX, called the meeting to order and welcomed members and guests. The roster was signed by 64 persons.

Members were reminded that 1981 dues of $15.00 must be paid tonight in order for you to be eligible for the special drawing to be held at the March meeting. Many members have already renewed their membership during the last two months and we also welcome the several new members who have joined RARS this year.

President Cobb announced that RARS 2nd Annual Awards Banquet will be held on the regular club meeting night, March 4, at the NCSU Faculty Club. The happy hour will begin at 6:30 and dinner will be at 7:30. There will be awards and recognition for RARS members who have made an outstanding contribution to the Club and a barber shop quartet for entertainment. The cost will be 7:50 per person. Doc asked that an amount up to $200 be allocated for prizes, awards and entertainment. The motion was made, seconded and carried. A sign-up sheet was passed around for those who plan to attend. It will be necessary to give the faculty club a head count by Friday, Feb. 27, and RARS will be held responsible for the cost. Members are urged to give a <u>definite</u> commitment prior to that date.

Reports were given by the following committees:

<u>Training</u> - Training Director, Bob Johnson, AA4L, was not present but members reported that both the Novice and Upgrade classes are well under way with about twenty students each.

<u>Repeater</u> - George Richards, WA4EKJ, reports that the receiver and exciter have been overhauled. The receiver is back in service. The exciter and PA have been road tested and installed. The machine is still on low power at present; there is still some power supply problem. A tower climb will be necessary when the weather improves in order to correct minor problems there.

Lowell Anderson gave a report on the status of the auto patch. Phone lines have been installed, and a great deal of work has been accom-

plished. Many people are working on different segments. It is now a matter of getting the pieces together. The equipment will be a homebrew version and a great deal of effort has been made to engineer in reliability. On the air testing should begin within the month and the patch should be in operation shortly afterward.

Sherman Starnes, W4TZU, gave an exciting glimpse of what may be in store for the future with the repeater under computer control. There are hopes for two transmitters, two receivers, battery back-up, autopatch, command circuitry and telemetry that could do wondrous things. The list is still growing and open to suggestions.

Hamfest - Rollin Ransom, NF4P, reports that plans are going smoothly. Vender letters are out; tables are ordered; flyers ready to be labeled; Committee Chairmen in control. These chairmen will be asking for help to carry out their respective duties and members are urged to volunteer their help for an hour or more.

Vice President, Phyllis Wainwright, N4CKM, introduced Chuck English of the Highway Patrol who presented an excellent program on the Highway Patrol's microwave communications system. The door prize, A TI slimline calculator was won by Tom Moody, W4MGR. The meeting was adjourned following coffee, doughnuts, and fellowship.

LETTER TO EDITOR

A letter to the editor from William R. Jackson, KA4OXP, is published elsewhere in this issue.

He is seeking information about RARS and amateur radio. Let's keep him busy answering telephone calls and radio calls from members. Don't forget to invite him to the hamfest.

The letter is contained in this issue of RARS News because we substituted our revised bylaws for the March issue.

Editor

FOR SALE: Complete novice station. Drake 2C receiver with 2CQ, both in excellent condition. Eico 720 90 watt transmitter, works great. All manuals and patch cords. $250.00. George H. Wilson, NB4ZTG. Phone (919)243-2117, Wilson, N. C.

9 February 1981

C.T. West, WD4HSI
Editor, RARS News
1611 Craig Street
Raleigh, NC 27608

William R. Jackson, KA4OXF
3029 Medlin Drive
Raleigh, NC 27607

Dear Mr. West,

I am writing to request information about the Raleigh Amateur Radio Society.

My interest in amateur radio began some 12 years ago in high school, when I helped a friend install a 60 foot tower in his back yard. I began learning the code, but alas, high school graduation separated me from my friend. I knew no one else involved in amateur radio who could answer my questions and spur my interest.

Six years in the Navy brought me in contact several times with MARS, but I was attached to a ship for my entire hitch and was never fortunate to be stationed with an amateur. Again, I failed to become licensed.

One day, after attending NCSU for two years, I saw a notice of Novice classes being conducted in the McKimmon center. I immediately signed up, and with the untiring efforts of Herb Lacy, N4UE, I managed, at last to acquire that illusive ticket.

Thirty days later found a very nervous Novice in the testing room of the FCC in Norfolk, preparing to take the 13 WPM code test. Watching the examiner place the key to the theory questions over my test, I believe that I was even more excited than when I was waiting for my wife-to-be walk down the isle. Upon the examiner's announcement, "you passed," my face acquired a grin that was several hours in fading.

Ham radio continues to be exciting for me. I've joined the NCSU club, W4ATC, and wish to further my involvement and support of Amateur Radio. Please send me information about the Raleigh Amateur Radio Society, its activities, its meeting times and places, and its membership requirements. I would like to make up for the 12 years that I could have been involved in this facinating hobby.

73,

Wm R. Jackson

William R. Jackson

the propellants the motor can be shut down and restarted. This would allow ground stations to establish the spacecraft in a very precise orbit with some bonuses which we will discuss in the May column.

OSCAR 7 is still in continuous sunlight and, as a consequence, is performing well.

OSCAR 8 continues to run warm but does not appear to be in any danger. It is now running about 90 seconds ahead of the published Project OSCAR predictions.

"BIG BANG" FILM ON APRIL MEETING PROGRAM

Club Program Chairman Phyllis Wainwright, N4CKM, said the 1979 Bell Lab film "Three Degrees" will be shown at the monthly RARS meeting April 1.

The film depicts historic experiments which helped confirm the "big bang" theory of the origin of the universe using radio astronomy.

Future program topics include solar cells, lasers, microelectronics, genesis of the transistor, and transistor fabrication.

HAMFEST PRIZE ASSISTANCE RECOGNIZED

Chuck Littlewood, K4HF, said six firms and ARRL assisted RARS in obtaining prizes for the 1981 Hamfest.

The firms are:

GISMO, Rock Hill, S. C.
Discom Sales, Lexington, N. C.
Kings, Raleigh, N. C.
Heath Company, Benton Harbor, Michigan
Speed Instrument Company, Raleigh, N. C.
Cornell-Dubilier, Fuquay-Varina, N. C.

ARRL has headquarters in Newington, Connecticut.

"The efforts of these firms to assist amateur radio through our hamfest should be recognized by RARS members and all our fellow hams," Littlewood said.

MINUTES OF LAST MEETING

ANN BRADLEY, WA4APK

Secretary, RARS

The regular monthly meeting of the Raleigh Amateur Radio Society was held on March 4, 1981 at the NCSU Faculty Club for the 2nd Annual RARS Award Banquet. Eighty-six members and guests were present. The social hour began at 6:30 followed by a delicious buffet dinner. Members and guests were welcomed by President Cobb and officers and spouses seated at the head table were introduced.

President Cobb made the sad announcement of the passing of Paul Browne, WB4PZW. The assemblage was asked to stand in a moment of silence for our friend, Paul, now a silent key.

The primary order of business for the evening was the presentation of certificates of award to RARS members who have made outstanding contribution to the club in the past year:

Supervising Rex Hospital move -
Bert Bailey, W4FMN
George Richards, WA4EKJ
Chuck Littlewood, K4HF
Bill Radford, WA4CCA

All members who participated in the move were recognized and asked to stand.

Training - Upgrade class
Bob Johnson, AA4L
Frank Weiss, KY4W

Newsletter Contributors
Sherman Starnes, W4YZU
Murray Hake, W6MVZ

Murray was also commended for public service in the search for Danny Hicks.

A long overdue plaque was also presented to Chuck Littlewood, K4HF, in recognition of his past years as President of RARS.

Paul Sims, YB4YBF, introduced the Rum River Crooks, a barber shop quartet, who gave a most entertaining program. Thanks to Paul for finding talent to provide such an enjoyable program.

Finally, drawings were held for the door prizes. The lady's prize, an unusual decorative basket, was won by Sandy Brown, XYL of Charlie, WD4NAC. The regular meeting door-prize was a digital clock won by Frank Weiss, KY4W. And ironically enough, the prize for prompt payment of dues, a Shure 444 Microphone, was won by Bob Corns, K4MC, a dedicated CW man.

TRAFFIC NOTES

by

Bob Corns, K4MC

Most of us are familiar with RARS or Tar Heel nets. These are just two of the hundreds listed in the ARRL net directory. There are nets listed for most ham bands and for all sorts of purposes.

Regular nets are held for reporting weather and river water levels. There are talk nets, like the Possum Trot net, Coffee Club net, and Handicappers net. There is an International Recreational Vehicle net and a maritime net. There are traffic nets other than National Traffic System nets, like Interstate Traffic net, Hit and Bounce net, and International Mission Radio Association net.

Nets are listed by frequency, by location, and by name of net. There are not many changes from year to year, and a net directory is good for several years. Postage is all that's needed to get one from ARRL.

KXY WORDS

Xvxn though my typxwritxr is an old modxl, it works quitx wxll xxcxpt for onx of thx kxys, I havx wishxd timxs that it workxd pxrfxctly. It is trux that thxrx arx forty-thrxx othxr kxys that function wxll xnough, but that onx kxy makxs thx diffxrxnce bxtwxxn a good pixce of typing and a poor onx.

Somxtimxs it sxxms to mx that pxoplx forgxt how nxcxssary thxy arx to RARS and thx Hamfxst. Thxy say, "I'm not important--what can onx pxrson do??" Thxsx pxoplx nxxd to bx rxmindxd that, likx my typxwritxr kxy, thxy arx nxxdxd. Xach of you is an intxgral part of the club and if onx part is not functioning, RARS and thx Hamfxst will bx lacking in whatxvxr it is that you can contributx.

So thx nxxt time you fxxl that you arx not important, rxmxmbxr my typxwritxr and say, "My hxlp is nxxdxd. As a mattxr of fact, I am thx kxy to a succxssful Hamfxst!"

RALEIGH AMATEUR RADIO SOCIETY, INC.
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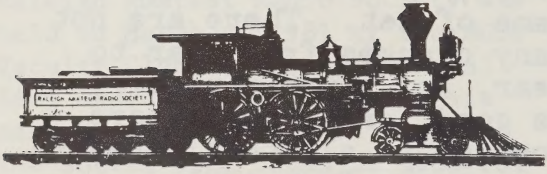

RARS meets each first Wednesday at 7:30 p.m. in the West Community Room of Crabtree Valley Mall.

Calendar

April 1
Regular RARS meeting

April 12
RARS Hamfest, Crabtree Valley Mall

April 15
RARS Advisory Board meeting

April 24, 25, 26
Dayton, Ohio Hamfest

May 6
Regular RARS meeting

May 6
FCC amateur exams at Wilmington, N. C.

May 16, 17
Durham, N. C. Hamfest